## Class 10

### **Topics**

- Inventory Model
- Canceling Edges
- Machine Failure Model
- Description of Renege Model

### Reading

Consider Round-Robin Scheduling – Think about how one would formulate it

Discrete Event Simulation Modeling

## Inventory Model

#### State Variables

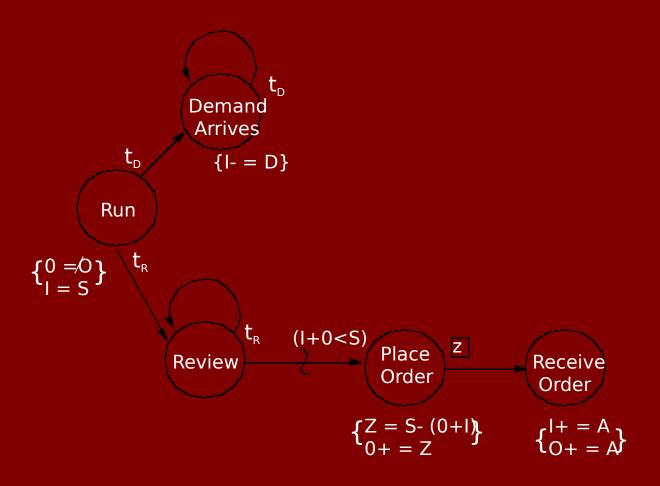
- I = inventory position
  = amount on hand # back-ordered
- O = # on order

#### **Parameters**

- D distance of demand
- t<sub>D</sub> time between demands
- t<sub>ol</sub> lead time to receive orders
- t<sub>R</sub> time between ???
- S amount to "meter up to"
- s trigger point

### Mode

- 1/T∫<sub>0</sub>TI+(t)dt inventory costs
- $1/T\int_0^T I(t) dt$  stock-out costs
- 1/T∫o(t)dt on order costs



## Discrete Event Simulat ion Modeling

# Canceling Edge

Note: No time delay.

- If parameter omitted, then none assumed
- If parameter present, expression j must exactly match that of a previously scheduled event in order for a match to occur.

Note: Strict Event Graph methodology does not allow for canceling all matching events.

Discrete Event Simulat ion Modeling